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ABSTRACT

A study compared the exclusive use of an electronic speller, the exclusive use of a personal spelling dictionary, as well as the use of a combination of the two, as tools for students to increase their consistent use of standard spelling. Subjects, 21 heterogeneously grouped fifth-grade students attending a suburban elementary school, completed a spelling attitudes questionnaire as pre- and post-tests. All students were administered a test of 500 high utility words as compiled by the American Heritage Word Frequency Study. Individual spelling errors were noted for each student after which individual instruction on spelling errors was conducted. Students were then individually tested on their original misspellings. Results indicated no support for the use of one method over another, although students using the electronic speller demonstrated a greater enthusiasm for self-checking their written work. (Contains 19 references and 2 tables of data. An appendix of data, the high-utility 500 words, and a student self-correction form are attached.) (RS)

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The Use of An Electronic Speller Paired with a Personal Spelling Dictionary of High-Frequency and Personal Interest Words to Increase Students' Awareness of Standard Spelling

By

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accepted
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ABSTRACT

This was a study of twenty-one heterogeneously grouped fifth grade students attending a suburban elementary school during the 1994/1995 school year. Students completed a spelling attitudes questionnaire prior to initiating the study, and its conclusion. All students were administered a test of the 500 High Utility words as complied by The American Heritage Word Frequency Study (Carroll, Davis, Richman). Individual spelling errors were noted for each student. Individual instruction on spelling errors was then conducted. At the study conclusion students were individually tested on their original misspellings. The purpose of this study was to compare the exclusive use of an electronic speller, the exclusive use of a personal spelling dictionary, as well as the use of a combination of the two, as tools for students to increase their consistent use of standard spelling.

ACKNOWLEDGMENTS

I would like to thank my husband, Edward, and my children Jill, Ryan and Kyle for their patience, understanding, encouragement, and support throughout the duration of this undertaking.

I would like to thank my Professors who have contributed to my professional growth throughout my studies at Kean College of New Jersey. In particular to Dr. Kastner and Dr. Tracey for presenting realistic classroom strategies, and to Dr. Mazurkiewicz for his invaluable help in putting this study together, I extend my sincere, special thanks.

I would like to thank my students, fellow teachers, principal, and office staff at Navesink Elementary School, Middletown Township, for their contributions and support in enabling this study to take place.

DEDICATION

I dedicate this paper to every student who has ever asked, and every teacher who has had to respond to the question.....

"DOES SPELLING COUNT?"

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The Use of An Electronic Speller Paired with a Personal Spelling Dictionary of High-Frequency and Personal Interest Words to Increase Students' Awareness of Standard Spelling

SPELLING- a simple eight letter word that elicits such strong feelings of competency, intelligence and self-worth. People identify themselves as either good or poor spellers with no measure in between. Society demands one hundred percent correct spelling, yet how well do we equip our students to meet this demand?

In order to answer this question posed, it is important to understand the role of spelling in our society. It is well established that English spelling is extraordinarily complex. Despite this acknowledged complexity, society places a high value on correct spelling (Krashen, 1993). It has been suggested that spelling ability may be considered an indicator of one's intelligence or education (Bos & Vaughn, 1991; Mercer & Mercer, 1989). "Society demands 100% accuracy in spelling. A single spelling mistake in public is unacceptable." (Krashen, 1993).

Typically, children are prepared to meet this demand through employing a phonetic strategy. Inasmuch as fifty percent of our language follows the rules of phonics (Groff, 1979, Hillerich, 1977), students can experience success half of the time. Society deems this percentage unacceptable. If students are

to be prepared to use standard spelling consistently, even for the words that do not follow phonetic rules, then we must provide them with realistic, reliable means to do so.

I say realistic and reliable means, because currently the most common means provided to students is the weekly spelling test. Many adults are quick to relate how well they did on their weekly tests in school, while their spelling application in real life is weak. Additionally, many teachers see a pattern of students correctly spelling a word on a weekly test, but possessing little retention in the following weeks. One possible reason for this phenomenon is that the words studied serve little purpose for the students after the test. If we are to make spelling meaningful and purposeful to students, than we need to look at current research which supports learning those words which appear in high frequency throughout children's writing (Storie & Willems, 1988).

Once we address which words students should be exposed to for purposes of spelling, then we need to provide them with a system which will support the consistent use of standard spelling.

HYPOTHESIS

To provide some information on which system would be most effective in supporting its use of standard spelling, the following study was undertaken. It was hypothesized that there would be no difference in the spelling ability of high frequency words of these three samples of fifth grade pupils who utilized either an electronic speller, a personal spelling dictionary, or a combination of the two.

PROCEDURES AND SAMPLE

The subjects for this study were twenty-one fifth grade students heterogeneously grouped in a contained classroom within a suburban community elementary school. Of the fourteen boys and seven girls, four students received in-class support for Language Arts instruction. This involved a collaborative teaching approach between the classroom teacher and the Resource Center teacher for one forty minute period daily.

The study began with the students completing a spelling attitude self-evaluation. Following this a measure of the student's ability to spell accurately the first five hundred high frequency words as they appear in the American Heritage Word Frequency Study

(Carroll, Davies, Richman) was obtained. Students heard a word in isolation, as well as within the context of a sentence, and were required to write the word. Words were dictated in groups of 100. Following the students' recording of the given words, each student was given a typed list of the words correctly spelled in order to self-correct their own work. A graphic organizer was constructed so that each student could note if a pattern to their misspellings existed.

Once the measure was obtained, students were randomly divided into three groups of seven, hereafter referred to as Groups A, B and C. Group A and Group B received a printed personal spelling dictionary produced by Curriculum Associates titled "The Quick-Word Handbook for Everyday Writers". Within this handbook appear the high frequency words in alphabetical order, as well as space to record their own interest words. Group B and Group C received instruction in how to use and electronic speller, specifically the Franklin Language Master. As a result of the grouping students in Group A had access to a personal spelling dictionary, those in Group B had

access to a personal spelling dictionary as well as the electronic speller, while those in Group C had access to the electronic speller.

All three groups received whole class instruction in spelling, as well as individual and small group instruction as opportunities presented themselves. The in-class support Language Arts period was focused on writing workshops which provided a daily means of assessing spelling accuracy and frequency of referring to either the personal spelling dictionary and/or the electronic speller. Students kept a daily log of their activity.

At the conclusion of this study students once again repeated the spelling attitude self-evaluation. A measure of gain in spelling achievement was obtained using the words originally misspelled on the initial inventory of high frequency words through individualized re-testing, again dictating the words in isolation, as well as in the context of a sentence, to note is standard spelling had been internalized.

DEFINITIONS

Electronic speller: an instrument in which the user can type in an approximation of a word and view standard spelling. Some models include additional word information such as definitions and thesaurus references.

Personal spelling dictionary : individualized listing of words including noted high frequency words, as well as personal interest words.

High frequency words : basic core of words that most frequently appear in students' writing in grades 2-12 as complied by the American Heritage Word Frequency Study.

Personal Interest words : words which may not necessarily appear on the basic core of high frequency words, yet is a word a student does use frequently due to a related special interest.

RESULTS

The twenty-one students involved in this study were randomly grouped into three samples. As evidenced by the data in Table 1 the groups were similar to

TABLE 1

Pre-Test Result Comparisons

	M	SD	t
Sample A	94.23	3.84	.66
Sample B	92.37	6.35	
Sample A	94.23	3.84	1.17
Sample C	91.43	5.05	
Sample B	92.37	6.35	.31
Sample C	91.43	5.05	

A=Personal Dictionary **B**=Electronic Speller/Personal Dictionary **C**=Electronic Speller

each other following the pretest of the 500 High Frequency Words.

At the conclusion of the study, although gains were made across the samples, no one sample made any significant gains when compared to the other two samples. The statistical data as presented in Table 2 does not support any one method used in this study as being superior to the others.

TABLE 2

Post-Test Results Comparisons

	M	SD	t
Sample A	96.86	2.37	.68
Sample B	95.86	3.08	
Sample A	96.85	2.37	.30
Sample C	96.29	4.36	
Sample B	95.86	3.08	.21
Sample C	96.29	4.36	

A=Personal Dictionary **B**=Electronic Speller/Personal Dictionary **C**=Electronic Speller

CONCLUSIONS AND IMPLICATIONS

While the statistical data does not support the use of one method over the other methods and thus the hypothesis of the is study accepted, it was observed that students using the electronic speller demonstrated a greater enthusiasm for self-checking their written work. As the only reason for spelling is writing, this increased motivation cannot be ignored. At the same time, realistically speaking, electronic spellers are expensive classroom tools that may not be available to all districts. Following this classroom study, it was note that some students purchased their own personal electronic speller for future use.

Observations with the use of the personal dictionary were also made. Students preferred the small size of the personal dictionary, as well as the smaller word list, when compared with a standard classroom dictionary. For students in the sample who had access to both the electronic speller and the personal dictionary, it was observed that although the electronic speller was the method of first choice, if an electronic speller was not available, they did consult their personal dictionary. Personal dictionaries are relatively inexpensive, the ones used in this study were less than $1.00 each, and therefore more affordable district-wide. Students can also create their own personal dictionary with teacher guidance. One advantage noted in the classroom when observing both the electronic speller and the personal dictionary, was that with the personal dictionary students had a running record, whereas with the electronic speller no such built-in record keeping was available. It was observed that students entered the same word on different occasions, suggesting that its standard spelling was not being internalized.

Throughout this study the students in all samples were exposed to both classroom and individualized instruction. Students were encouraged to look for patterns of errors they individually repeated. Although attempts to keep statistics on this were not successful, it was observed that some students did refer to this self-check when proof-reading their written expressions. Guiding students to recognize misspellings is an area in need of further exploration.

It is interesting to note that although the lowest score on the pre-test of the 500 High Frequency Words was 82.8%, and 89.2% on the post-test, ten students considered themselves to be poor spellers on the spelling attitude survey. This reaffirms society's demand for 100% spelling accuracy to be a good speller.

Spelling: Related Research

It is well established that English spelling is extraordinarily complex. Despite this acknowledged complexity, the public places a high value on correct spelling (Krashen, 1993). It has been suggested that spelling ability may be considered an indicator of one's intelligence or education (Bos & Vaughn, 1991; Mercer & Mercer, 1989). "Society demands 100% accuracy in spelling. A single spelling mistake in public is unacceptable." (Krashen, 1993) One anonymous writer to English Journal, a forty-one year old successful English teacher studying for his doctorate, stated "...(I) have been plagued all my life by an inability to attach the proper sequence of written letters to the sound meaning units I have in my head" (Dec. 1991). He further relates how his worst spelling experience occurred in fifth grade when the decision for the entire class having an extra recess period centered on his ability to score high on the weekly spelling test. Needless to say his self-image suffered greatly to the point where he states that not only did his entire class hate him, but sadly he hated himself. He credits his success with spelling to his introduction to his first word processor. "Nobody

appreciates a word processor like a bad speller." He continues that with this new technology he "no longer had to bare before her (his wife) my most heinous misspellings" (Dec. 1991). Having the available technology enabled this man to adapt, feel accepted, and have his thoughts validated.

Sounding words out phonetically is the most common spelling strategy employed by elementary school students (Dowing, DeStefanto, Rich, & Bell, 1984). Inasmuch as fifty percent of our language follows the rules of phonics,(Groff, 1979; Hillerich, 1977), students can experience success half the time. However, as cited earlier, this percentage is unacceptable to society. Electronic spellers are made to key into an approximate phonetic spelling. The very fact that elementary students rely on phonetic principals to form their approximations, makes such a tool as the electronic speller very user friendly. A study conducted by Gerlach and Johnson (1989) concluded that students who had access to an electronic speller corrected and verified significantly more words than students whose only reference was the dictionary. However, in assessing this particular

study, the researchers felt a need to determine if their conclusion would hold true when students were working from their own writings as compared to the prepared composition used in the 1989 study. A subsequent study (Gerlach, Johnson, and Ouyang, 1991) observed the use of an electronic speller with fourth, fifth and six grade students' rough draft writings. The study concluded that students corrected or verified as correct over 85% of the words they had identified as being possibly misspelled. These results support the use of an electronic speller in conjunction with additional practice and instruction in identifying misspelled words.

Further support of an electronic speller comes from Reith, et al. (1984) who states that " the microcomputer provides a vehicle for incorporating principles of direct instruction into programs for children with learning disabilities". Allred (1987, p.14) adds that using computer technology in spelling shows promise for motivation, individualized instruction, diagnosis and prescription, visual memory, editing and testing theories of learning as applied to spelling (Seda, 1991). With the use of a electronic

speller students take an active part in forming approximations thereby hypothesizing about language (Betza, 1987).

While use of an electronic speller has merit, it also has drawbacks. Scheuermann, Jacobs, McCall & Knies (1994) point out that such technology may not be an option for all students. Cost and availability are the two major drawback cited. This in addition to the fact that while most electronic spellers' have extensive dictionaries, it is possible that a content-specific word would not appear. The authors also cite an uneasiness with students entering approximations repeatedly, thereby possibly practicing the incorrect spelling as opposed to acquiring the standard spelling. The authors present an alternative strategy, that of a personal spelling dictionary.

A personal spelling dictionary does not require an expensive purchase price, not does it require batteries. A personal spelling dictionary can be used in school and is available for the student to bring home, whereas an electronic speller may be required to remain in school. Scheuermann, et. al contend that the use of a personal spelling dictionary

requires a more active approach on the part of the speller. According to Zutell (1978) active involvement in the process of learning to spell results in better learning. The personal spelling dictionary is very individual for each speller as it is composed of words that each individual student frequently misspells. Good and Brophy (1986) suggest that the more meaningful the material to be learned, the better the learning. The inclusion of content specific words supports learning outside the confines of a spelling/language arts class only. Another important component is the fact that a personal spelling dictionary can include proper nouns and be updated, or amended, continually. Scheuermann, Jacobs, McCall and Knies (1994) discuss their experiences which shows students are highly motivated to use their personal spelling dictionaries and that students learn to spell many of the entries. This tool enables students to consider their spellings throughout the day and across curriculum areas. Good and Brophy (1986) support this distributed practice as producing higher levels of maintenance as compared to massed practice, or single session use.

Who determines which words a student needs to

be able to spell is an age old question. Current research supports learning words appearing in high frequency throughout children's writing (Storie & Willems, 1988). This practice is further supported by Graham, Harris & Loynachan (1994) who add that within these high-frequency word lists appear the words that are also most commonly misspelled. Using such a list in conjunction with the individual student's writing could provide a solid spelling foundation. Peter Bodycott (1993) concurs that the purpose of spelling is to help the reader understand the writer's message. Focusing on the words that most often appear in the messages would be in keeping with this belief.

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Appendices

PRE AND POST TEST RESULTS

SAMPLE GROUP	PRETEST	POST-TEST
Group A		
1	92.6	95.2
2	98.0	99.0
3	95.2	97.0
4	89.8	93.4
5	95.2	98.2
6	99.4	100.0
7	89.4	95.2
Group B		
8	84.0	89.2
9	98.0	99.2
10	96.4	98.2
11	90.0	98.0
12	95.8	98.8
13	84.0	90.8
14	98.4	99.8
Group C		
15	98.0	99.8
16	92.6	97.2
17	91.8	95.8
18	95.8	98.8
19	91.4	94.8
20	82.8	90.8
21	87.6	93.8

THE HIGH-UTILITY 500

Over the years researchers have carefully tabulated the highest-utility words. Spelling instruction, with the goal of helping students become better spellers in their daily writing, must focus exclusively on these high-utility words.

The following list of words was compiled initially from the American Heritage Word Frequency Study (Carroll, Davies, Richman). These words were cross-checked with other respected studies (Gates, Horn, Rinsland, Greene and Loomer, Harris and Jacobson).

Very little difference is noted among these sources. In 1985 Milton Jacobson analyzed the compositions of over 22,000 students in Grades 2-12 to determine the validity of these and other word-frequency studies. The results of this intensive analysis indicated that students continue to use the same basic core of high-frequency words in their writing and that the minor differences in frequency placement of words on the various lists were insignificant.

THE FIRST 100

the, of, and, a, to, in, is, you, that, it, he, for, was, on, are, as, with, his, they, at, be, this, from, I, have, or, by, one, had, not, but, what, all, were, when, we, there, can, an, your, which, their, said, if, do, will, each, about, how, up, out, them, then, she, many, some, so, these, would, other, into, has, more, her, two, like, him, see, time, could, no, make, than, first, been, its, who, now, people, my, made, over, did, down, only, way, find, use, may, water, long, little, very, after, words, called, just, where, most, know

THE SECOND 100

get, through, back, much, go, good, new, write, our, me, man, too, any, day, same, right, look, think, also, around, another, came, come, work, three, must, because, does, part, even, place, well, such, here, take, why, help, put, different, away, again, off, went, old, number, great, tell, men, say, small, every, found, still, between, name, should, home, big, give, air, line, set, own, under, read, last, never, us, left, end, along, while, might, next, sound, below, saw, something, thought, both, few, those, always, show, large, often, together, asked, house, don't, world, going, want, school, important, until, form, food, keep, children

THE THIRD 100

feet, land, side, without, boy, once; animals, life, enough, took, four, head, above, kind, began, almost, live, page, got, earth, need, far, hand, high, year, mother, light, country, father, let, night, picture, being, study, second, soon, story, since, white, ever, paper, hard, near, sentence, better, best, across, during, today, however, sure, knew, it's, try, told, young, sun, thing, whole, hear, example, heard, several, change, answer, room, sea, against, top, turned, learn, point, city, play, toward, five, himself, usually, money, seen, didn't, car, morning, I'm, body, upon, family, later, turn, move, face, door, cut, done, group, true, half, red, fish, plants

THE FOURTH 100

living, black, eat, short, United States, run, book, gave, order, open, ground, cold, really, table, remember, tree, course, front, American, space, inside, ago, sad, early, I'll, learned, brought, close, nothing, though, idea, before, lived, became, add, become, grow, draw, yet, less, wind, behind, cannot, letter, among, able, dog, shown, mean, English, rest, perhaps, certain, six, feel, fire, ready, green, yes, built, special, ran, full, town, complete, oh, person, hot, anything, hold, state, list, stood, hundred, ten, fast, felt, kept, notice, can't, strong, voice, probably, area, horse, matter, stand, box, start, that's, class, piece, surface, river, common, stop, am, talk, whether, fine

THE FIFTH 100

round, dark, past, ball, girl, road, blue, instead, either, held, already, warm, gone, finally, summer, understand, moon, animal, mind, outside, power, problem, longer, winter, deep, heavy, carefully, follow, beautiful, everyone, leave, everything, game, system, bring, watch, shall, dry, within, floor, ice, ship, themselves, begin, fact, third, quite, carry, distance, although, sat, possible, heart, real, simple, snow, rain, suddenly, leaves, easy, lay, size, wild, weather, miss, pattern, sky, walked, main, someone, center, field, stay, itself, boat, question, wide, least, tiny, hour, happened, foot, care, low, else, gold, build, glass, rock, tall, alone, bottom, walk, check, fall, poor, map, friend, language, job

My SPELLING	CORRECT SPELLING	ERROR